

**Draft External Assessment Resources**  
**For planning purposes only**

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## **Level 2 Physics**

**2.3, 2.4, and 2.6**

### **RESOURCE SHEET**

Refer to this sheet to answer the questions for Physics 2.3, 2.4, and 2.6.

Check that this sheet is printed on the back.

**YOU MAY KEEP THIS SHEET AT THE END OF THE EXAMINATION.**

You may find the following formulae useful.

**Physics 2.3: Demonstrate understanding of waves**

$$\frac{1}{f} = \frac{1}{d_o} + \frac{1}{d_i} \quad \text{or} \quad s_i s_o = f^2 \quad m = \frac{d_i}{d_o} = \frac{h_i}{h_o} \quad \text{or} \quad m = \frac{f}{s_o} = \frac{s_i}{f} \quad n_1 \sin \theta_1 = n_2 \sin \theta_2$$

$$\frac{n_1}{n_2} = \frac{v_2}{v_1} = \frac{\lambda_2}{\lambda_1} \quad v = f \lambda \quad f = \frac{1}{T} \quad v = \frac{d}{t}$$

**Physics 2.4: Demonstrate understanding of mechanics**

$$v = \frac{\Delta d}{\Delta t} \quad a = \frac{\Delta v}{\Delta t} \quad v_f = v_i + at \quad d = v_i t + \frac{1}{2} at^2 \quad p = mv$$

$$d = \frac{v_i + v_f}{2} t \quad v_f^2 = v_i^2 + 2ad \quad \Delta p = F \Delta t \quad E_p = \frac{1}{2} kx^2 \quad E_k = \frac{1}{2} mv^2$$

$$\Delta E_p = mg \Delta h \quad F = -kx \quad F = ma \quad a_c = \frac{v^2}{r} \quad F_c = \frac{mv^2}{r}$$

$$W = Fd \quad P = \frac{W}{t} \quad \tau = Fd \quad C = 2\pi r$$

**Physics 2.6: Demonstrate understanding of electricity and electromagnetism**

$$E = \frac{V}{d} \quad F = Eq \quad \Delta E_p = Eqd \quad E_k = \frac{1}{2} mv^2 \quad F = BIL \quad F = Bqv$$

$$I = \frac{q}{t} \quad V = \frac{\Delta E}{q} \quad V = IR \quad P = IV \quad V = BvL$$

$$P = \frac{\Delta E}{t} \quad R_T = R_1 + R_2 + \dots \quad \frac{1}{R_T} = \frac{1}{R_1} + \frac{1}{R_2} + \dots$$